Addressing the Dental Workforce in Montana:
Regional Initiative in Dental Education (RIDE) Program
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Background and Context: In 2002 a Montana task force on health care workforce needs included dental workforce shortages as a critical issue. Montana dentists are aging, and many dentists who retire are not being replaced, especially in smaller towns and rural areas. Many counties face extreme workforce shortages, and in some areas there are no dentists at all. Montana does not have a school of dentistry. As the population has grown, the state has depended largely upon dentists from other states to meet its workforce needs. A Regional Initiative in Dental Education (RIDE) program, similar to the "WWAMI" program at Montana State University, created from a partnership with University of Washington School of Dentistry, could address workforce shortages and improve distribution.

Montana Workforce: A survey of the Montana Dental workforce was conducted for the Department of Public Health and Human Services in conjunction with the Montana Dental Association (MDA) in 2001 (87% response rate). Data from this survey and other sources indicated reveal:

- Montana dentists are older than the national average – 70% are 45 yrs or older, 26.7% are age 55 and older
- 35 of 56 counties have been identified as health professional shortage areas and some counties have no dentists at all
- In 2000 there were 51.9 dentists per 100,000 compared with the national average of 63.6 (American Dental Association, and the US Bureau for the Census, 2000)
- From 1990 - 2000 there was a 16.9% decline in the dentist to population ratio (Larson EH, State of the Health Workforce in Rural America, 2003)

Predictions for continued population growth in Montana, rising numbers of elderly who need dental care, and aging of dentists herald worsening dental workforce shortages. Without a dental school of its own, Montana must rely on other states for more than half of its dental workforce. Only 44% of the Montana dentists surveyed were from Montana. The current state-support for one WICHE slot and two University of Minnesota slots are inadequate to replenish the supply of dentists approaching retirement age. Of surveyed dentists, 18.5% reported WICHE program support for dental school, and 6.1% attended the University of Minnesota.

Support for Montana Students Seeking Dental Careers: The lack of a dental school in Montana has also disadvantaged Montana students seeking to enter dentistry. Admission to publicly-funded dental schools in other states is more difficult because of the competition for slots by in-state students. In addition tuition rates are higher for out-of-state residents and private dental schools. In 2003-4 there were 23 students from Montana who enrolled in the first year of dental schools in other states (ADA, 2006).

Workforce Impacts Dental Access: Finally, workforce shortages always impact the disadvantaged populations the most. There have been vacancies in community health centers,

which act as dental safety nets, and many underserved populations face extended waiting times. Some CHCs are not taking new patients. Other underserved sites include prisons. Some patients (even with private dental insurance) must travel long distances because dentists in their communities are simply too busy to accept any new patients.

Feasibility Study: In 2004 the Montana legislature commissioned a feasibility study for a RIDE program (HB 522). The final report will be presented to the Legislature in January 2007. In this report other approaches will be summarized as well, including building a new dental school in Montana, expansion of WICHE slots, or additional slots at U Minnesota or other schools of dentistry. The costs of building a new dental school in Montana are would be difficult due to a lack of critical mass to build an entire school for 8 students a year. A recent dental school costs are prohibitive. While the later two choices are much less costly, these students do not necessarily return to practice in Montana.

Proposed Solution: The RIDE program collaboration with the University of Washington School of Dentistry has the potential to address workforce shortages in Montana, **by ensuring students receive a significant amount of their education in Montana** – something not possible with other models (WICHE, U Minnesota or other similar arrangements). RIDE will also increase access to publicly-funded dental education for Montana students, without major new capital expenditures. Similar to the WWAMI program collaborative model between the University of Washington School of Medicine and Montana State University, RIDE students would spend their first year at MSU with some course overlap with medical students. They would spend most of their second and third years in Seattle, but return for 4-6 months of clinical experience during their senior year, at the students are making plans for their future. Clinical sites would be spread around the state and include areas of high need, such as rural areas, community health centers, and possibly Indian Health Service sites. The RIDE program will enroll and train 8 dental students a year, for a total of 32 students at any given time once the program is fully implemented.

The University of Washington School of Dentistry has worked with MSU, the Montana Dental Association, and the Montana Dental Access Coalition to consider this proposal carefully. Essential to this model is a strong interest in collaboration among practicing dentists and community health centers, where students would need direct supervision during their clinical rotations. Dentists in Bozeman would also have a central role in supporting the dental portions of the curriculum, much of which will be delivered by distance learning (through the Burns Telecommunications Center) at MSU. Strong faculty and general infrastructure at MSU are also important to meeting the needs of the dental program. All of these key elements have been assessed, and are present in Montana. Moreover there is high enthusiasm among these key stakeholders, and a desire to go forward with a RIDE program.

Costs of Dental Education

The sustainability of the RIDE model is based on an accurate assessment of the costs of dental education in regional sites. As with all health professions, dental education is costly. Dental education is more costly than medical education for several reasons. First, medical students are educated in the context of patient care (hospitals, clinics, etc) created expressly for efficiency in

the delivery of clinical care, which is carried out by attending physicians. Medical students and residents assist, and learn in the process. Hospitals and related facilities generate income from in-patient hospitalizations and procedures, and there are additional governmental contributions to offset revenues lost in the care of indigent patients.

Dental schools, by contrast, maintain their own dental clinics. These are generally run with dental education as the primary objective, and patient care is delivered by dental students. There are not nearly as many major diagnostic or therapeutic procedures carried out. Finally, dental students must be ready to practice independently by their fourth year. Medical students, by contrast, will generally train for an additional 3-7 years before engaging in independent practice. This places a large burden on faculty resources to supervise students and ensure their readiness for practice by the time of graduation.

Dental student tuition costs fall far short of costs. For example, in fiscal year **2002,** average costs per student per year were calculated at **$78,763**.[i] In **2004** average expenditures were estimated at **$84,471** per student per year (with a range from $67,759 of $105,015).[ii] In recent years UW School of Dentistry figures for costs per year were estimated at between $85,000 and 90,000 per student per year.

Approaches to determining and comparing costs of dental education:

1. Using the UW School of Dentistry estimates of $ 90,000 per student per year results in **$2,880,000** for 32 students, once the program is fully operational.

2. Using 2002 estimates of $78,763 per student per year, results in **$2,520,416** per year.

3. Costs to run the RIDE program will be **$1,755,876** to the Montana legislature **in 2006 dollars**. This is **$54,871** per student per year. Adding $15,000 paid by students for tuition yields **$69,871**, still considerably below the national average. These costs are somewhat higher than for the medical students estimated at $1,800,000 for 40 students (10 more students / yr). This yields $45,000 per student /yr plus $15,000 tuition, or **$60,000** per student /yr. In general dental education is more costly than medical education for the reasons stated above.

The RIDE program is less costly than national averages because it takes advantage of the efficiencies of overlap with medical infrastructure at MSU'S WWAMI program, and the use of part time clinical affiliate faculty and community facilities to accomplish some of the most costly components of dental education.

Start up costs (year 2007-8) involve capital of approximately $100,000 at the Bozeman campus. There will be no start-up capital costs from the UWSOD in the budget. In FY 2007-8 (the phase in year) there will considerable operating costs required both in Bozeman and Seattle to set up the administrative structure and data bares, recruit and train faculty, complete calibration for representatives to the admissions committee, develop each course in the curriculum including distance learning components, and go through CODA accreditation. Also during this year the first cohort of students will be admitted. Costs for this **phase-in year** will be approximately **$873,978**.

In subsequent years costs will increase until the full cohort of 32 students have been enrolled (2011-12) with annual operating costs of **$1,755,876 (in 2006 dollars)**. For 2008-9 costs are projected at about $ 1.532 million; 2009-10 at $1.607million, 2010-11 at $1.682 million; and 2011-12 at $1.756 million. Approximately 40% of the costs are spent in Montana either at the MSU campus (about $500,000 per year), or for faculty support, student costs (housing, travel etc for clinical rotations).

All estimates are in 2006 dollars. Adjustments for inflation will be necessary.

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[i] Brown LJ and Meskin LH. The Economics of Dental Education. American Dental Association, Chicago: 2004.

[ii] Bailit H, T Beazoglou and A J Formicola. The dental curriculum and the cost of dental education. Abstract 2872, presented at the 82nd general session of the International Association of Dental Research, March 10-13, 2004, Honolulu.